
KRAUS & NAIMER

BLUE LINE

Push Buttons and Pilot Lights

Web-site: <http://www.krausnaimer.com>



ISO 9001

Programs

Push buttons and pilot lights by Kraus & Naimer represent an ideal combination of functional security and economical efficiency in a modular design.

Push Buttons

- Non-illuminated or illuminated
- Flush, extended or with extended front ring
- Momentary or latched (for converting into spring return function)

Pilot Lights

- Standard units flush or conical
- Solid pilot lights (direct wire)

Double-Push Buttons

- Non-illuminated or illuminated
 - Legend inserts

Emergency Stop Push Buttons

- Fool-proof
- Non-illuminated or illuminated
- Optional mounting in enclosure

Potentiometer

- Incl. resistor
 - recyclable

Reset Push Button

- Incl. reset rod
 - Pre-assembled front elements
 - Individual components

Rotary Switches

- Non-illuminated or illuminated
- Without and with key
- Momentary (for converting into spring return function)

Cam Switches

- ON/OFF switches and double-throw switches
- Protection IP65
- For further cam switches, refer to Catalogue 120

Enclosures

- Plastic yellow or grey
- With 1, 2, 3, 4 or 6 options

Legend Options

- Front plates and color caps

Accessories

- A wide range of accessories are available, e.g. protection shrouds and protection caps

Environmentally Compatible Materials

- Cadmium and asbestos-free

Selection

- Complete units



**Contact blocks
LED Pilot Light
Assemblies**



**Coupling
Plate**

Front Elements

- Ergonomical design, front rings metallic colored or black
- Illuminated elements offer excellent brightest and contrast in all light conditions
- Pilot lights with perfect light due to special lenses
- Any inscription, abrasion-resistant by laser
- Latched push buttons and rotary switches are convertible into spring return function
- Mushroom push buttons with large points
- High protection and food resistance: push buttons and pilot lights IP 67/IP 69K, double-push buttons and rotary switches IP66
- For special operating available with protection caps

Legend Plates

- For front elements and double-push buttons
- With legend inserts
- Available with laser or engraved inscription

Fixation Nut

- Is part of the front element
- Nut key for fixation nut as accessories

Coupling Plate

- For contact blocks and LED pilot light assemblies
- For max. 3 elements per contact level

Contact Blocks and LED Pilot Light Assemblies

- Finger-proof and open terminals (IP 20)
- Captive mounting screws
- Low overall depth, for mounting in commercial plaster depth box



**Fixation
Ring**



**Legend
Plate**



**Front
Element**

Contact Blocks

- Available as N/C and N/O
- High switching capacity, both in AC-15 and DC-13 operation (technical data see page 22)

LED Pilot Light Assemblies

- In green, red and white color
- Long life (100 000 running hours) by especially low power consumption and vibration resistance
- With only 2 voltage ranges the worldwide common applications are covered
- For decoupled function control, LED series elements are available

Program Completion

- For extensive and complicated switching programs we recommend the use of cam switches size S00 described in catalogue 120. The design and appearance closely match the described push buttons and pilot lights.

Order Information

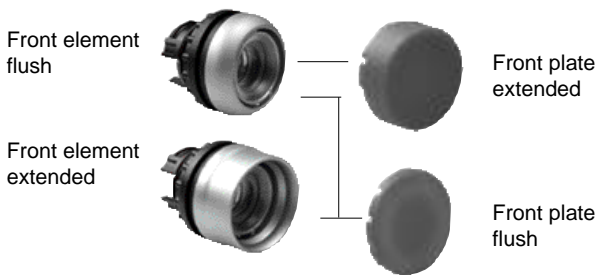
By changing the order text from P SN to P SB the unit will be specified with black front ring.

Description

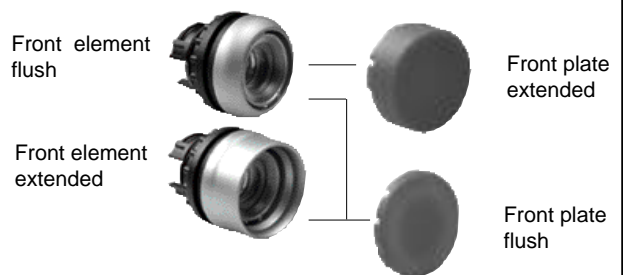
The modular design of the series push buttons and pilot lights meets your personal requirements in every respect.

Front Elements

Push Buttons Non-illuminated



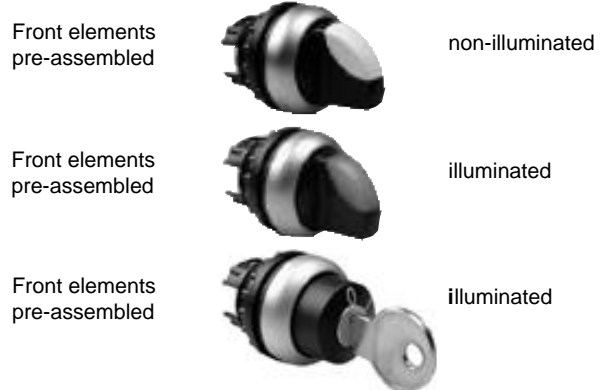
Push Buttons illuminated



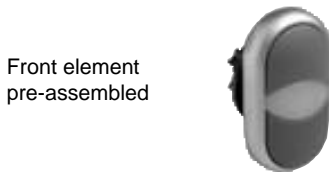
Mushroom Push Buttons



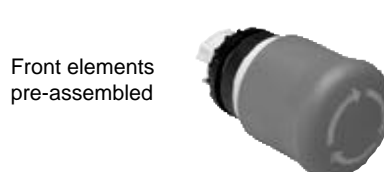
Rotary Switches



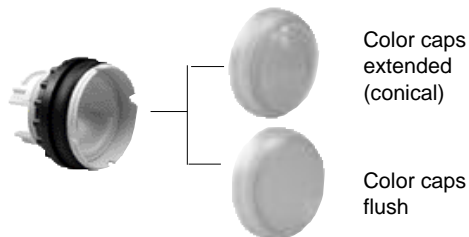
Double-push buttons



Emergency stop push buttons

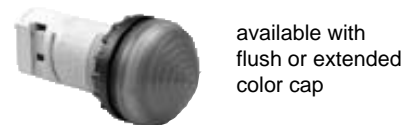


Pilot lights

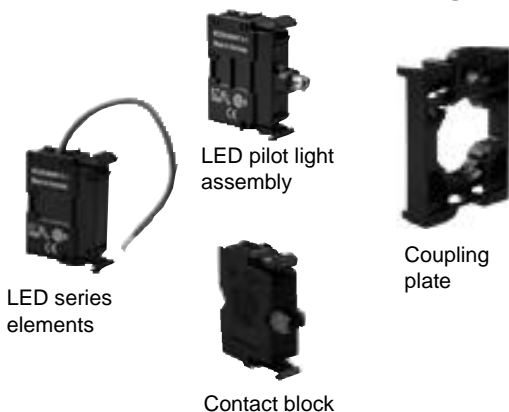


Complete Standard Units

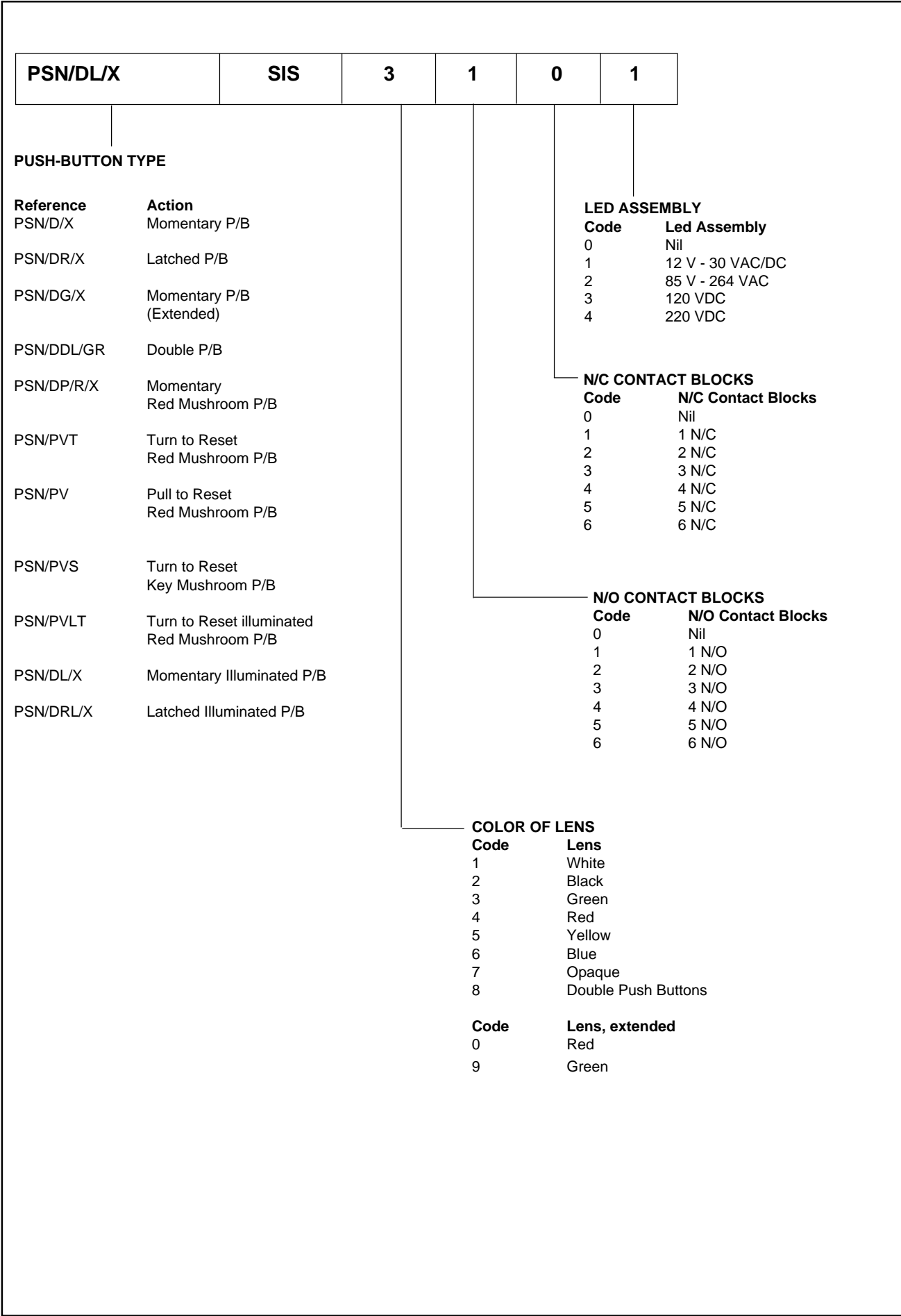
Solid pilot lights



Contact Blocks and LED Pilot Light Assemblies Potentiometer



How to Order P-Series Push Buttons and illuminated Push Button



Design

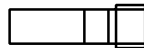
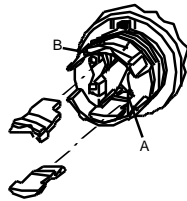
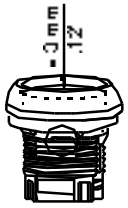
Programming and Circuit Design

Programming for covering the latched function into spring return function

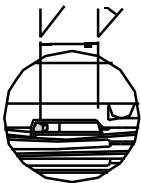
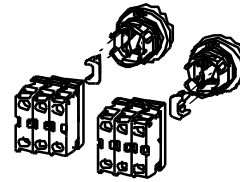
Push Buttons

Rotary switches

Rod link for operating the middle contact block of non-illuminated rotary switches with 3 positions



P SN/XC/Y



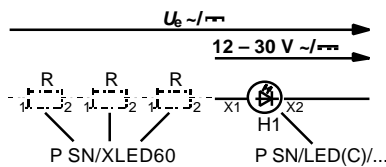
P SN/XC/Y in B



P SN/XC/Y in A and B

Key cannot be removed in spring return position

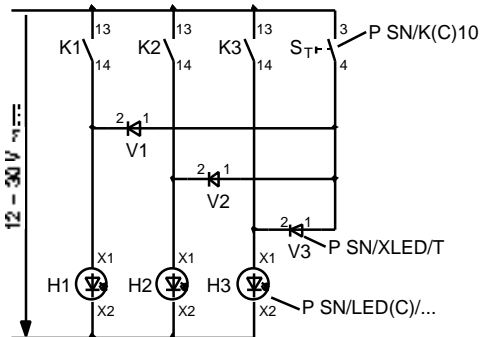
LED resistor element



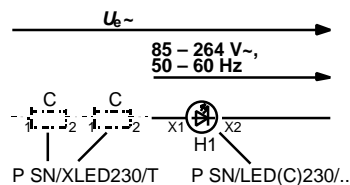
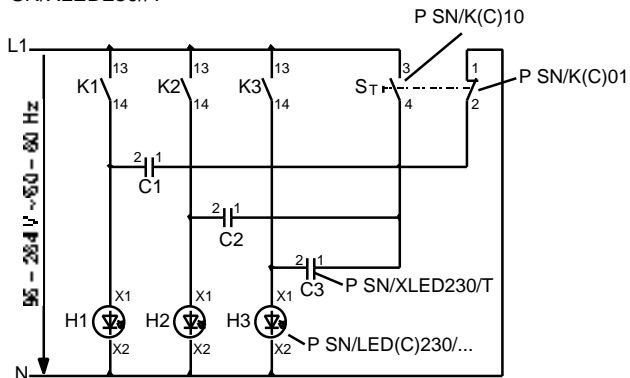
P SN/XLED60	1x	2X	3x	4x	5x	6x	7x
U_e	60 V	90V	120 V	150 V	180 V	210 V	240 V

LED test element

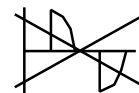
P SN/XLED/T





P SN/XLED230/T









P SN/XLED230/T	1x	2X
U_e	400 V AC	500 V AC



Technical Data

			Contact Blocks	LED Elements	Push Buttons Mushroom P/B momentary	Double- Push Buttons	Rotary Switches Rotary Switches illuminated
General			IEC/EN 60947, VDE 0660				
Standards and requirements							
Mechanical life	operations	x 10 ⁶	5	-	5	0.2	0.1
Max. operating frequency		S/h	3600	-	3600	3600	2000
Operating force		N	5	-	5	5	-
Operating torque		Nm	0.8(screw terminals)	0.8(screw terminals)	-	-	0.3
Protection IEC/EN 60529			IP 20	IP 20	IP 67/IP 69K	IP 66	IP 66
Environmental resistance			humidity, constant, according to IEC 60068-2-78				
			humidity, cyclic, according to IEC 60068-2-30				
Ambient temperature	open	min./max.	° C	-25/+70	-25/+70 ¹	-25/+70	-25/+70
Mounting position			any	any	any	any	any
Shock withstand according to IEC 60068-2-27			9	> 30	> 30	> 30	> 30
Shock period 11 ms, 1/2 sinus wave							
Max. Permissible wire gage							
single core	min.-max.	mm ²	0.75-2.5	0.75-2.5	-	-	-
standard wire	min.-max.	mm ²	0.5-2.5	0.5-2.5	-	-	-
Current Paths							
Rated impulse withstand voltage U _{imp}		V	6000	6000	-	-	-
Rated insulation voltage U _i		V	500	500	-	-	-
Overtoltage category/ Pollution degree			III/3	III/3	-	-	-
Control circuit reliability at 24 V DC/5 mA	fault frequency H _F		< 10 ⁻⁷ , < 1 failure per 10 ⁷ operations				
5 V DC/1 mA	fault frequency H _F		< 5 x 10 ⁻⁶ < 1 failure per 5 x 10 ⁶ operations				
Max. fuse size	characteristic	A gL /gG	10	-	-	-	-
Switching Capacity							
Rated operational current I _e							
AC - 15							
115 V		A	6	-	-	-	-
230 V		A	6	-	-	-	-
400 V		A	4	-	-	-	-
500 V		A	2	-	-	-	-
DC - 13							
24 V		A	3	-	-	-	-
42 V		A	1.7	-	-	-	-
60 V		A	1.2	-	-	-	-
110 V		A	0.8	-	-	-	-
220 V		A	0.3	-	-	-	-
Electrical life							
AC - 15							
230 V/0.5 A	operations	x 10 ⁶	1.6	-	-	-	-
230 V/1.0 A	operations	x 10 ⁶	1.0	-	-	-	-
230 V/3.0 A	operations	x 10 ⁶	0.7	-	-	-	-
DC - 13							
12 V/2.8 A	operations	x 10 ⁶	1.2	-	-	-	-
Approvals							
Technical data on request							

Technical Data

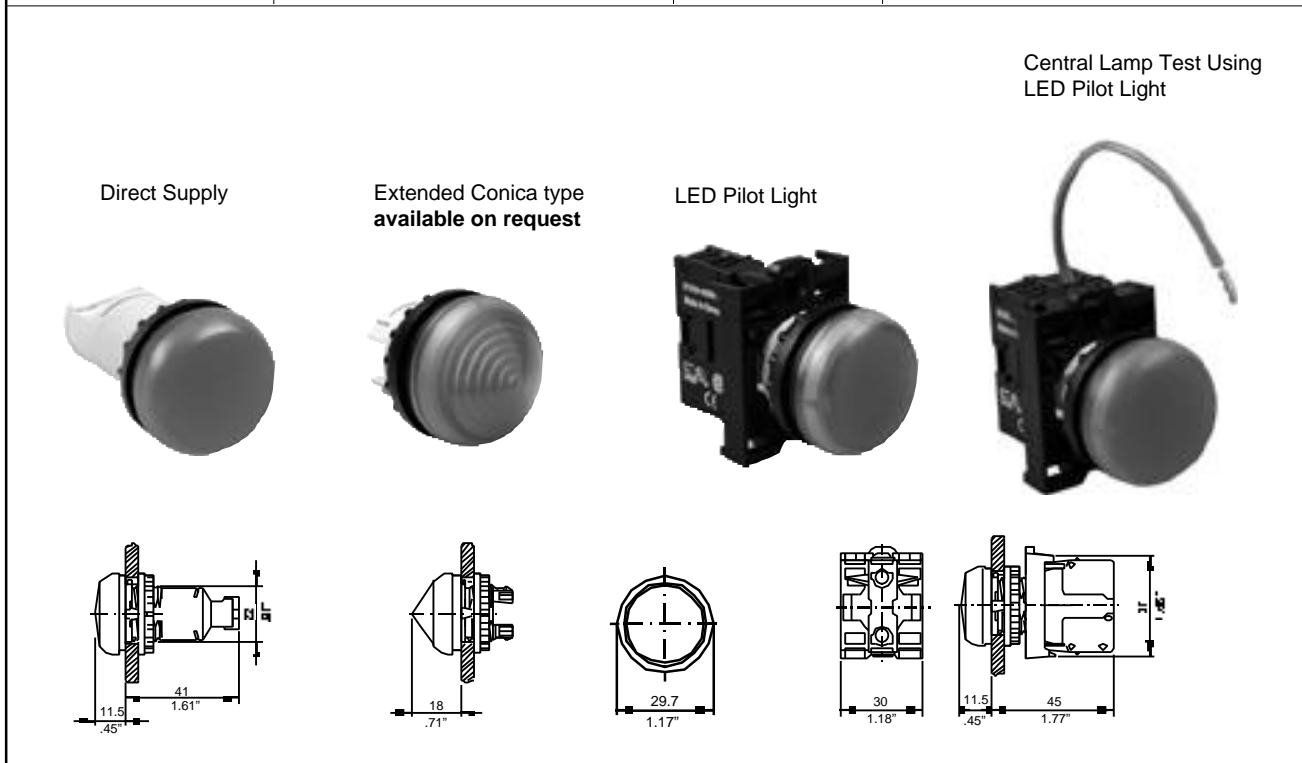
			Rotary Switches key operated	Potentiometer Solid pilot lights	Pilot Lights	Push buttons push Buttons, illuminated Mushroom P/B, latched	Emergency Stop Push Buttons
General Standards and requirements Mechanical life Max. operating frequency Operating force Operating torque Protection IEC/EN 60529 Environmental resistance Ambient temperature Mounting position Shock withstand according to IEC 60068-2-27 Shock period 11 ms, 1/2 sinus wave Max. Permissible wire gage single core standard wire	operations open min./max.	x 10 ⁶ S/h N Nm ° C 9 mm ² mm ²	IEC/EN 60947, VDE 0660 > 0.1 100 0.5 IP 66	IP 66 (Potentiometer) IP 67/IP 69K (pilot light)	IP 67/IP 69K IP 67/IP 69K IP 67/IP 69K	> 0.1 1800 5	> 0.1 600 50 reset by turning IP 67/IP 69K reset by pulling IP 66/IP 69K
Current Paths Rated impulse withstand voltage U _{imp} Rated insulation voltage U _i Overvoltage category/ Pollution degree		V V		4000 250 III/3			
Approvals Technical data on request					 		
Generals standards and requirements Mechanical life Max. operating frequency Operating force Protection according to IEC/EN60529 Environmental resistance Ambient temperature Mounting position Shock withstand according to IEC 60068-2-27 Shock period 11 ms, 1/2 sinus wave	operations min./max.	x 10 ⁶ S/h N ° C g	Foot and Palm Switches Latched IEC/EN 60947, VDE 0660 > 0,1 600 60 IP 67, IP 69K humidity, constant, according to IEC 60068-2-78 humidity, cyclic, according to IEC 60068-2-30				
Generals standards and requirements rated impulse withstand voltage U _e ² Rated insulation voltage U _{imp} ² Rated thermal current I _{th} Rated operational current I _e 220 V-240 V 380 V-440 V Max. fuse size gL/gG-characteristic Max. permissible wire gage single core or standard wire flexible wire	AC-21A AC-15 AC-15	V V A A A A A mm ² mm ²	Cam Switches CG4¹ IEC/EN 60947, VDE 0660 440 4000 10 10 2.5 1.5 10 2 x 1.5 2 x 1.5				
Approvals Technical data on request					   		³

¹For further cam switches, refer to catalog 120. ²Valid for lines with grounded common neutral termination, overvoltage category III, pollution degree 3.

³If this approval is required, please request when ordering.

P-Series Pilot Lights - 22.5mm ø / IP 67 Dust and Damp Proof

Voltage	Description	Color	Reference
6V-130V AC/DC 110V/220VAC	Flush type - Direct supply using • Filament Lamp = 6V - 130V* • Neon Lamp = 110V/20V* (Bulb to be ordered separately)	Green Red Yellow Blue Opaque	P SN/LC/G P SN/LC/R P SN/LC/Y P SN/LC/B P SN/LC/W
12V- 30V AC/DC	LED Pilot Light	Green Red Yellow Blue White	P SN/L/X SIS0001 P SN/L/X SIS0002 P SN/L/X SIS0003 P SN/L/X SIS0004 P SN/L/X SIS0005
85V- 264V AC	LED Pilot light	Green Red Yellow Blue White	P SN/L/X SIS0006 P SN/L/X SIS0007 P SN/L/X SIS0008 P SN/L/X SIS0009 P SN/L/X SIS0010
12V- 30V AC/DC	Central Lamp Test Using LED Pilot Light	Green Red Yellow Blue White	P SN/L/X SIS0011 P SN/L/X SIS0012 P SN/L/X SIS0013 P SN/L/X SIS0014 P SN/L/X SIS0015
85V- 264V AC/DC	Central Lamp Test Using LED Pilot Light	Green Red Yellow Blue White	P SN/L/X SIS0016 P SN/L/X SIS0017 P SN/L/X SIS0018 P SN/L/X SIS0019 P SN/L/X SIS0020
500V AC Max.	LED Pilot Light	Green Red Yellow Blue White	P SN/L/X SIS0021 P SN/L/X SIS0022 P SN/L/X SIS0023 P SN/L/X SIS0024 P SN/L/X SIS0025



P-Series Push Buttons - 22.5mm ø / IP 67 Dust and Damp Proof

Contacts		Description	Color	Reference
N/O	N/C			
1	0	FLUSH PushButtons (Spring Return)	Green	P SN/D/X SIS3100
0	1		Red	P SN/D/X SIS4010
1	0		Yellow	P SN/D/X SIS5100
1	0		Blue	P SN/D/X SIS6100
1	0		White	P SN/D/X SIS1100
1	0		Black	P SN/D/X SIS2100
1	1		FLUSH PushButtons (Spring Return)	Green
1	1	Red		P SN/D/X SIS4110
1	0	FLUSH PushButtons (Latched)	Green	P SN/DR/X SIS3100
0	1		Red	P SN/DR/X SIS4010
1	0		Yellow	P SN/DR/X SIS5100
1	0		Blue	P SN/DR/X SIS6100
1	0		White	P SN/DR/X SIS1100
1	0		Black	P SN/DR/X SIS2100
1	0		Extended Front Ring Push Buttons (Spring Return)	Green
0	1	Red		P SN/DG/X SIS4010
1	0	Extended Push Buttons (Spring Return)	Green	P SN/D/X SIS9100
0	1		Red	P SN/D/X SIS0010

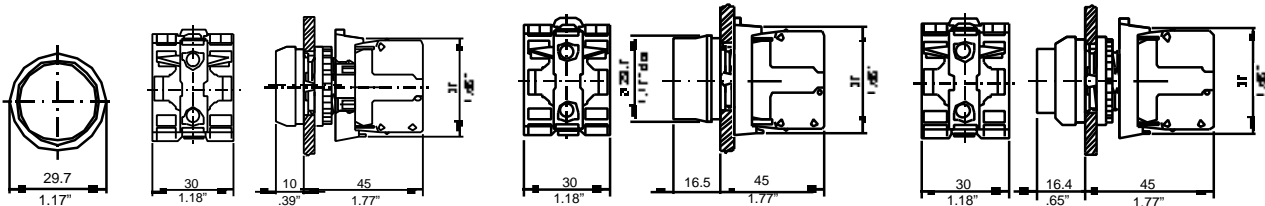
FLUSH Push Buttons



Extended Front Ring
Push Buttons



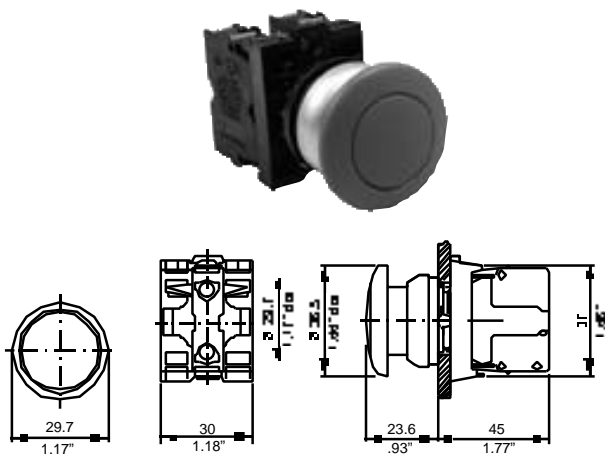
Extended Push Buttons



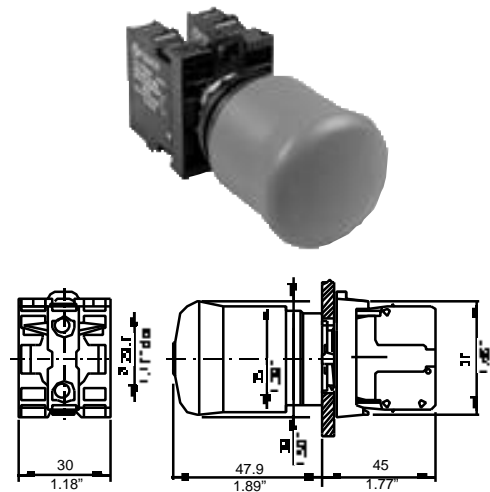
P-Series Push Buttons - 22.5mm ø / IP 67 Dust and Damp Proof

Contacts		Description	Color	Reference
N/O	N/C			
0 1	1 1	Mushroom Push Buttons (Spring Return)	Red Red	P SN/DP/R/X SIS4010 P SN/DP/R/X SIS4110
0 1	1 1	Mushroom Push Button (Turn to RESET)	Red Red	P SN/PVT SIS4010 P SN/PVT SIS4110
0 1	1 1	Mushroom Push Button (Pull to RESET)	Red Red	P SN/PV SIS4010 P SN/PV SIS4110
0 1	1 1	Mushroom Key Sw. (Turn to RESET)	Red Red	P SN/PV SIS4010 P SN/PV SIS4110
1	1	Double Push Buttons	Green/Red	P SN/DDL/GR SIS8110

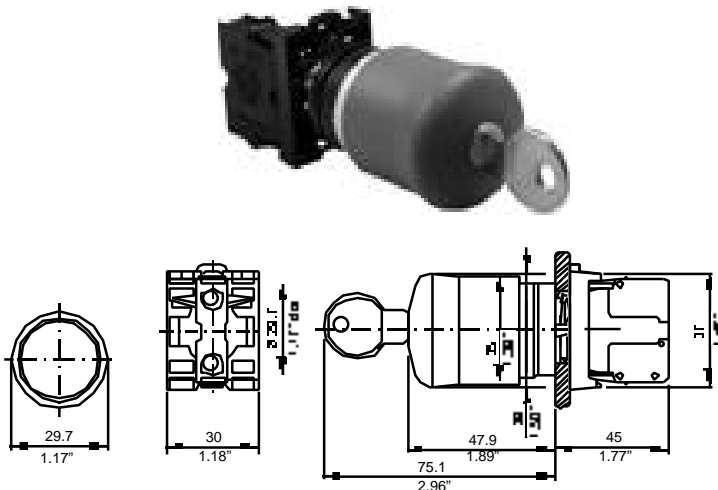
Mushroom Push Buttons



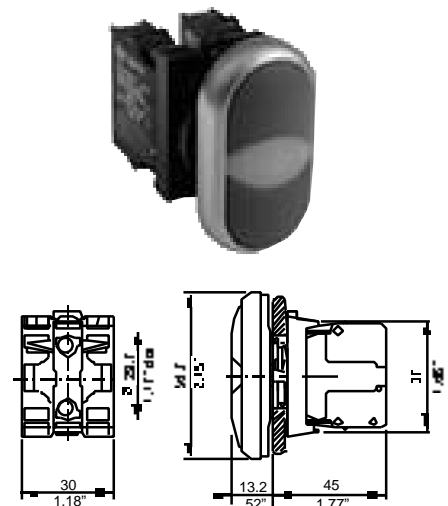
Mushroom Push Buttons



Mushroom Key Switch



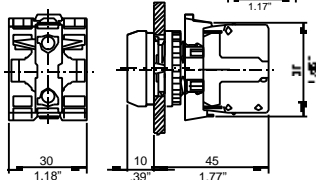
Double Push Buttons



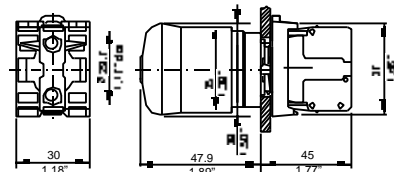
P-Series Illuminated Push Buttons - 22.5mm ø / IP 67 Dust and Damp Proof

Contacts		Voltage	Description	Color	Reference
N/O	N/C				
1 0 1 1 1 1	0 1 0 0 0	12V-30V AC/DC	Spring Return/Flush front plate using LED	Green Red Yellow Blue Opaque	P SN/DL/X SIS3101 P SN/DL/X SIS4011 P SN/DL/X SIS5101 P SN/DL/X SIS6101 P SN/DL/X SIS7101
1 1 1 1 1	1 1 1 1 1	12V-30V AC/DC	Spring Return/Flush front plate using LED	Green Red Yellow Blue Opaque	P SN/DL/X SIS3111 P SN/DL/X SIS4111 P SN/DL/X SIS5111 P SN/DL/X SIS6111 P SN/DL/X SIS7111
1 0 1 1 1	0 1 0 0 0	120 V DC	Spring Return/Flush front plate using LED	Green Red Yellow Blue Opaque	P SN/DL/X SIS3103 P SN/DL/X SIS4013 P SN/DL/X SIS5103 P SN/DL/X SIS6103 P SN/DL/X SIS7103
1 1 1 1 1	1 1 1 1 1	120 V DC	Spring Return/Flush front plate using LED	Green Red Yellow Blue Opaque	P SN/DL/X SIS3113 P SN/DL/X SIS4113 P SN/DL/X SIS5113 P SN/DL/X SIS6113 P SN/DL/X SIS7113
1 0 1 1 1	0 1 0 0 0	85V-264 V AC	Spring Return/Flush front plate using LED	Green Red Yellow Blue Opaque	P SN/DL/X SIS3102 P SN/DL/X SIS4012 P SN/DL/X SIS5102 P SN/DL/X SIS6102 P SN/DL/X SIS7102
1 1 1 1 1	1 1 1 1 1	85V-264 V AC	Spring Return/Flush front plate using LED	Green Red Yellow Blue Opaque	P SN/DL/X SIS3112 P SN/DL/X SIS4112 P SN/DL/X SIS5112 P SN/DL/X SIS6112 P SN/DL/X SIS7112
1 0 1 1 1	0 1 0 0 0	12V-30V AC/DC	Latched/Flush front plate using LED	Green Red Yellow Blue Opaque	P SN/DRL/X SIS3101 P SN/DRL/X SIS4011 P SN/DRL/X SIS5101 P SN/DRL/X SIS6102 P SN/DRL/X SIS7101
1 0 1 1 1	0 1 0 0 0	120 V DC	Latched/Flush front plate using LED	Green Red Yellow Blue Opaque	P SN/DRL/X SIS3103 P SN/DRL/X SIS4013 P SN/DRL/X SIS5103 P SN/DRL/X SIS6103 P SN/DRL/X SIS7103
1 0 1 1 1	0 1 0 0 0	85V-264V AC	Latched/Flush front plate using LED	Green Red Yellow Blue Opaque	P SN/DRL/X SIS3102 P SN/DRL/X SIS4012 P SN/DRL/X SIS5102 P SN/DRL/X SIS6102 P SN/DRL/X SIS7102
0 0 0	1 1 1	12V-30V AC/DC 85V-264V AC/DC 120 V DC	Emergency Stop-Reset by Turning Emergency Stop-Reset by Turning Emergency Stop-Reset by Turning	Red Red Red	P SN/PVLT SIS4011 P SN/PVLT SIS4012 P SN/PVLT SIS4013

FLUSH Push Button



Emergency Stop



P-Series Push Buttons Control Station

Contacts		Description	Color	Grey Enclosure	Yellow Enclosure	W L H		
Enclosure N/O	Dim. N/C			Reference	Reference			
1	0	START Pushbutton Station • Green Push Buttons	Green	991 SGB700 SIS0001	-	80	110	65
0	1	STOP Push Buttons Station • Red Push Buttons	Red	991 SGB701 SIS0001	-	80	110	65
0	1	Emergency STOP Push Buttons station • Red Mushroom head • Turn to RESET	Red	991 SGB702 SIS0001	991 SGB703 SIS0001	80	110	65
0	1	Emergency STOP/KEY Push Buttons station • Red Mushroom head • Key Release/Turn to RESET	Red	991 SGB704 SIS0001	991 SGB705 SIS0001	80	110	65
1	1	STOP/START Push Buttons Station • Green Push Buttons • Red Push Buttons	Green/Red	991 SGB706 SIS0001	-	80	110	65
1	1	Emergency STOP/START Push Buttons Station • Green Push Buttons • Red Mushroom/Turn to RESET	Green/Red	991 SGB707 SIS0001	991 SGB708 SIS0001	80	110	65
2	1	FOR/STOP/REV Push Buttons station • Green Push Buttons • Red Push Buttons • Yellow Push Buttons	Green/Red/ Yellow	991 SGB709 SIS0001	-	80	140	65
2	1	UP/STOP/DOWN Push Buttons station • Green Push Buttons • Red Push Buttons • Yellow Push Buttons	Green/Red/ Yellow	991 SGB709 SIS0002	-	80	140	65

FORWARD/STOP/REVERSE Push Buttons



START Push Buttons Station



Emergency STOP Push Buttons Station



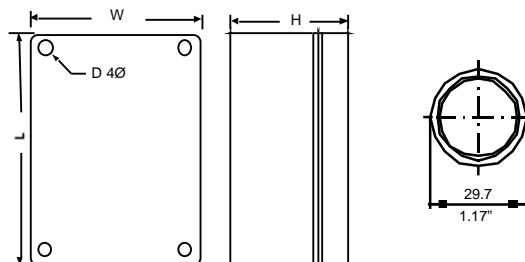
Emergency STOP/START Push Buttons Station









Emergency STOP/KEY Push Buttons Station



STOP/START Push Buttons Station



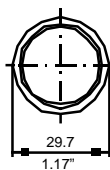
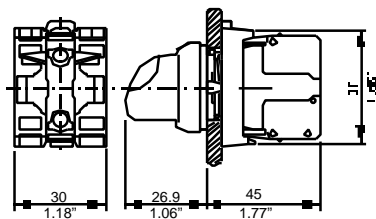
Rotary Switches - 22.5mm ø / IP 66 Dust and Damp Proof.

Contacts		Lighting Voltage	Description	Switching Position	Reference			
N/O	N/C							
Non-Illuminated								
1	0	85V-264V AC	Rotary Switch "0 - I" • Stay Put • Spring Return		P SN/WRK SIS0001 P SN/WRK SIS0002			
1	0							
1	1			Rotary Switch "I - II" • Stay Put • Spring Return		P SN/WKV SIS0001 P SN/WKV SIS0002		
1	1							
2	0			Rotary Switch "I - 0 - II" • Stay Put • Spring Return		P SN/WRK3 SIS0001 P SN/WRK3 SIS0002		
2	0							
3	0			Rotary Switch "1 - 2 - 3"		P SN/WRK3 SIS0003		
3	0							
Illuminated								
Rotary Switch "0 - 1"								
1	0		85V-264V AC	• Green		P SN/WRLK/G SIS0001 P SN/WRLK/R SIS0001 P SN/WRLK/Y SIS0001 P SN/WRLK/B SIS0001 P SN/WRLK/WSIS0001		
1	0			• Red				
1	0	• Yellow						
1	0	• Blue						
1	0	• Opaque						
2	0			Rotary Switch "I - 0 - II"				P SN/WRLK3/G SIS0001 P SN/WRLK3/R SIS0001 P SN/WRLK3/Y SIS0001 P SN/WRLK3/B SIS0001 P SN/WRLK3/WSIS0001
2	0	• Green						
2	0	• Red						
2	0	• Yellow						
2	0	• Blue						
2	0	• Opaque						

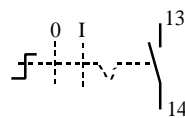
Non-Illuminated



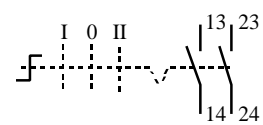
Illuminated



2 positions

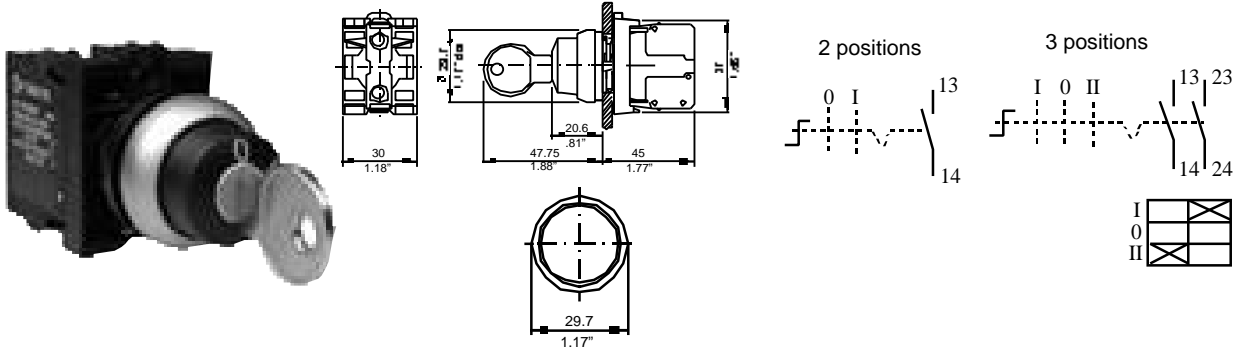


3 positions



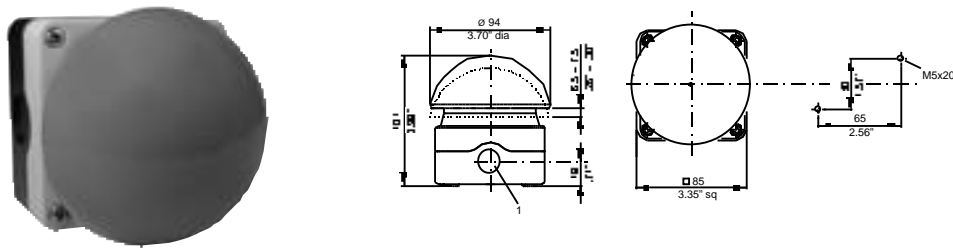
Rotary Switches - Key Operated 22.5mm ø / IP 66 Dust and Damp Proof.

Contacts		Description	Switching Position	Reference	
N/O	N/C				
1	0	Key Switch "0 - I" • Key can be removed in all position • Key can be only removed in "0" position		P SN/WRS	SIS0001
1	0			P SN/WRS/A1	SIS0001
2	0	Key Switch "I - 0 - II" • Key can be removed in all position • Key can be only removed in "0" position		P SN/WRS3	SIS0001
2	0			P SN/WRS3/A1	SIS0001



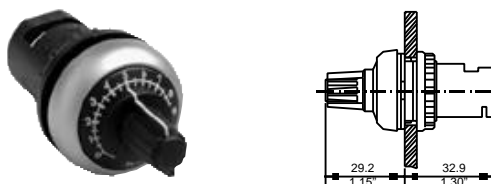
Foot and Palm Switch - 22.5mm ø / IP 67 Dust and Damp Proof.

Contacts		Description	Reference
N/O	N/C		
0	1	Foot and Palm Switch, IP67/IP69K top yellow, bottom black reset by pulling Red	P FT/R-V-KC01-IY


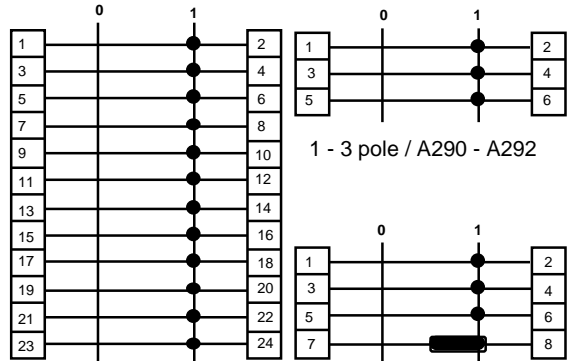


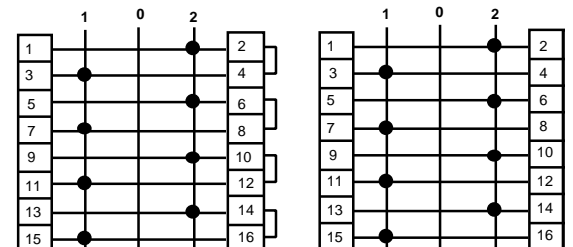

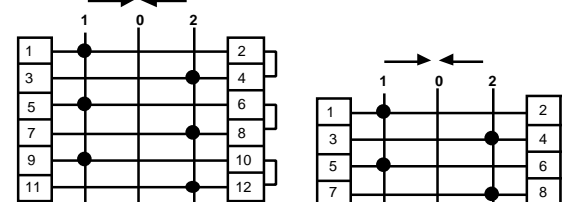

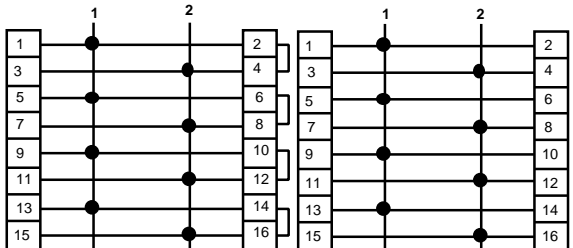


Potentiometer - 22.5mm ø / IP 66 Dust and Damp Proof.

Description	Reference
3 separate screw terminals, P _{max.} = 0.5 W • 1 k • 4.7 k • 10 k	P SN/R1K P SN/R4K7 P SN/R10K



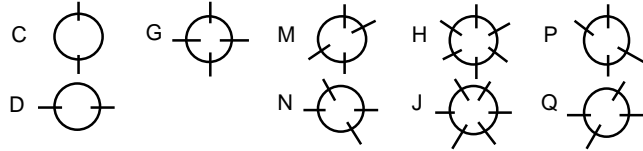
Cam Switches

Switch Description	Switch Code	Stages	Electrical Diagram
<p>Cam switches, IP 65. ON/OFF</p> <p>- 60° Switching</p> <ul style="list-style-type: none"> • 1 pole • 2 pole • 3 pole • 4 pole • 5 pole • 6 pole • 7 pole • 8 pole • 9 pole • 10 pole • 11 pole • 12 pole 	<p>CG4 A200 -600 FS1</p> <p>CG4 A201 -600 FS1</p> <p>CG4 A202 -600 FS1</p> <p>CG4 A203 -600 FS1</p> <p>CG4 A341 -600 FS1</p> <p>CG4 A342 -600 FS1</p> <p>CG4 A343 -600 FS1</p> <p>CG4 A344 -600 FS1</p> <p>CG4 A345 -600 FS1</p> <p>CG4 A346 -600 FS1</p> <p>CG4 A347 -600 FS1</p> <p>CG4 A348 -600 FS1</p>	<p>1</p> <p>1</p> <p>2</p> <p>2</p> <p>3</p> <p>3</p> <p>4</p> <p>4</p> <p>5</p> <p>5</p> <p>6</p> <p>6</p>	 <p>1 - 3 pole / A290 - A292</p> <p>1 - 12 pole / A200-A348</p> <p>4 pole / A293</p>
<p>- 90° Switching</p> <ul style="list-style-type: none"> • 1 pole • 2 pole • 3 pole • 4 pole 	<p>CG4 A290/SGZ621 FS1</p> <p>CG4 A291/SGZ621 FS1</p> <p>CG4 A292/SGZ621 FS1</p> <p>CG4 A293/SGZ621 FS1</p>	<p>1</p> <p>1</p> <p>2</p> <p>2</p>	
<p>Changeover Switches with OFF & with common incoming</p> <p>- 60° Switching</p> <ul style="list-style-type: none"> • 1 pole • 2 pole • 3 pole • 4 pole 	<p>CG4 A210 -600 FS1</p> <p>CG4 A211 -600 FS1</p> <p>CG4 A212 -600 FS1</p> <p>CG4 A213 -600 FS1</p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p>	 <p>1 - 4 pole / A210-A213</p> <p>1 - 4 pole / A710 - A713</p>
<p>with electrically Isolated Contacts</p> <p>- 60° Switching</p> <ul style="list-style-type: none"> • 1 pole • 2 pole • 3 pole • 4 pole 	<p>CG4 A710 -600 FS1</p> <p>CG4 A711 -600 FS1</p> <p>CG4 A712 -600 FS1</p> <p>CG4 A713 -600 FS1</p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p>	
<p>Changeover Switches Spring Return with common incoming</p> <p>- 30° Switching</p> <ul style="list-style-type: none"> • 1 pole • 2 pole • 3 pole 	<p>CG4 A214 -600 FS1</p> <p>CG4 A215 -600 FS1</p> <p>CG4 A216 -600 FS1</p>	<p>1</p> <p>2</p> <p>3</p>	 <p>1 - 3 pole / A214-A216</p> <p>1 - 2 pole / A714 - A715</p>
<p>Spring Return with electrically Isolated Contacts</p> <p>- 30° Switching</p> <ul style="list-style-type: none"> • 1 pole • 2 pole 	<p>CG4 A714 -600 FS1</p> <p>CG4 A715 -600 FS1</p>	<p>1</p> <p>2</p>	
<p>Changeover Switches without OFF with common incoming</p> <p>- 60° Switching</p> <ul style="list-style-type: none"> • 1 pole • 2 pole • 3 pole • 4 pole 	<p>CG4 A220 -600 FS1</p> <p>CG4 A221 -600 FS1</p> <p>CG4 A222 -600 FS1</p> <p>CG4 A223 -600 FS1</p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p>	 <p>1 - 4 pole / A220-A223</p> <p>1 - 4 pole / A720 - A723</p>
<p>Changeover Switches with electrically Isolated Contacts</p> <p>- 60° Switching</p> <ul style="list-style-type: none"> • 1 pole • 2 pole • 3 pole • 4 pole 	<p>CG4 A720 -600 FS1</p> <p>CG4 A721 -600 FS1</p> <p>CG4 A722 -600 FS1</p> <p>CG4 A723 -600 FS1</p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p>	

Key Switches

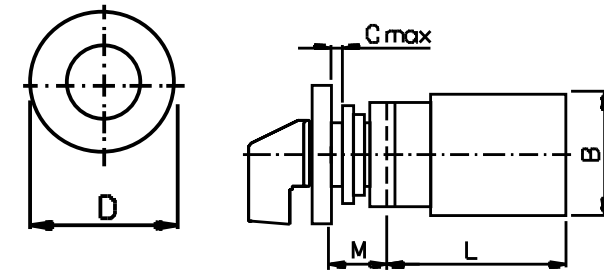
Switch Description	Switch Code	Stages	Electrical Diagram
Cam switches, IP 65. ON/OFF - 60° Switching • 1 pole • 2 Pole • 3 pole • 4 pole	CG4 A200/SG6796 *FS1 CG4 A201/SG6796 *FS1 CG4 A202/SG6796 *FS1 CG4 A203/SG6796 *FS1	1 1 2 2	<p>1 - 4 pole / A200-A203</p>
Changeover Switches with OFF & with common incoming - 60° Switching • 1 pole • 2 pole • 3 pole • 4 pole	CG4 A210/SG6797 *FS1 CG4 A211/SG6797 *FS1 CG4 A212/SG6797 *FS1 CG4 A213/SG6797 *FS1	1 2 3 4	<p>1 - 4 pole / A210-A213</p>

Locking program in which the key can be removed



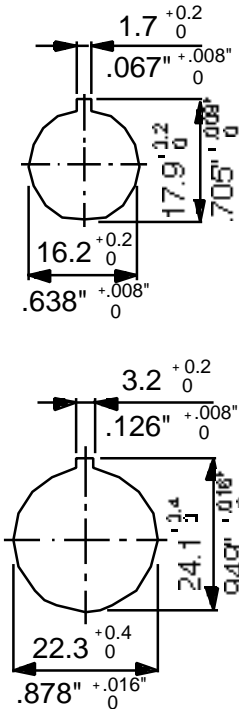
Key Switch

Cam Switch














Kaba High Security and Master Key Lock System Available On Request.

Padlockable Switch V840K Available On Request



B	C	D	M
28	5	29.5	12.5
1.1	.2	1.16	.49
L Stage		CG4	
1		38.5	1.52
2		50.5	1.99
3		62.5	2.46
4		74.5	2.93
5		86.5	3.41
6		98.5	3.88
7		110.5	4.35
8		122.5	4.82






Accessories

Description	Reference	Description	Reference	
<p>Contacts Blocks - Front Mounting</p> <ul style="list-style-type: none"> • NO Normally Open  • NC Normally Close  	<p>P SN/K10</p> <p>P SN/K01</p>	<p>LED Lamp (BA9S)</p> <p>- 24V AC/ DC</p> <ul style="list-style-type: none"> • Red • Green • Yellow • Orange • Blue <p>- 30V AC</p> <ul style="list-style-type: none"> • Amber • Green • Red <p>- 110V AC/ DC</p> <ul style="list-style-type: none"> • Red • Green • Yellow • Orange • Yellow <p>- 220V AC</p> <ul style="list-style-type: none"> • Amber • Blue • Green • Red 	<p>999 KDLE-9SD-4HR</p> <p>999 KDLE-9SD-4HG</p> <p>999 KDLE-9SD-4HY</p> <p>999 KDLE-9SD-4HO</p> <p>999 KDLE-9SD-4HB</p> <p>999 KDLF0827A30A</p> <p>999 KDLF0827A30G</p> <p>999 KDLF0827A30R</p> <p>999 KDLE-9SD-8HR</p> <p>999 KDLE-9SD-8HG</p> <p>999 KDLE-9SD-8HY</p> <p>999 KDLE-9SD-8HO</p> <p>999 KDLE-9SD-8HB</p> <p>999 PH9SSA220A</p> <p>999 PH9SSA220B</p> <p>999 PH9SSA220G</p> <p>999 PH9SSA220R</p>	
<p>Contacts Blocks - Base Mounting</p> <ul style="list-style-type: none"> • NO Normally Open  • NC Normally Close  	<p>P SN/KC10</p> <p>P SN/KC01</p>	<p>Filament Lamp</p> <ul style="list-style-type: none"> • 6V • 12V • 24V • 36V • 48V • 130V 	<p>999 FZR9/006</p> <p>999 FZR9/012</p> <p>999 FZR9/024</p> <p>999 FZR9/036</p> <p>999 FZR9/048</p> <p>999 FZR9/0130</p>	
<p>Track Adapter</p> <p>For tracks according to EN 50 022 for front mounted units</p> 	<p>P SN/IVS</p>	<p>Neon Lamp</p> <ul style="list-style-type: none"> • 110V • 220V <p>Green Neon Lamp</p> <ul style="list-style-type: none"> • 220V 	<p>999 GM9/110</p> <p>999 GM9/220</p> <p>999 GM9/220G</p>	
<p>Nut Key</p> <ul style="list-style-type: none"> • For push buttons, pilot lights and rotary switches 	<p>P SN/MS</p>	<p>Mechanical Reset Units, IP 67/IP 69K non-illuminated. Reset Rod 100 mm</p> <p>RESET</p> 	<p>P SN/DZ/B/GB14</p> <p>P SN/DZ/B/X6</p> <p>• For cam switches</p> 	<p>S00 T170 09</p>

Accessories

Description	Reference	Description	Reference
Emergency stop plates <ul style="list-style-type: none"> • Round Yellow Background and Black Lettering ø 90 mm 60 mm	999G F*SG3318 999G F*SG3319	Emergency stop plates <ul style="list-style-type: none"> • Square 50mm x 50mm Yellow Background and Black Lettering	999G F*SG3321

When non-standard or special engravings are required, you need to select frame type and special engraving as shown below:

Frame Type	Reference
<ul style="list-style-type: none"> • For Emergency Stop Plates Rectangular Yellow Background and White Lettering, Size: <ul style="list-style-type: none"> • 33 mm x 50 mm 	999G SGG784
<ul style="list-style-type: none"> • For Push Buttons <ul style="list-style-type: none"> • Reverse Engraving White Background and Black Lettering Size: <ul style="list-style-type: none"> • 35 mm x 45mm • ø 19 mm • ø 22 mm • ø 25mm <ul style="list-style-type: none"> • 45 mm x 55 mm • ø 30 mm 	999R SGG729 999R SGG265 999R SGG730 999R SGG731
<ul style="list-style-type: none"> • Single Line • Double Line 	S00 F990/A1B -PRH S00 F990/A1B -PRF
<ul style="list-style-type: none"> • For Double-Push Buttons • Legend Carrier 	P SB/STDD/X
<ul style="list-style-type: none"> • Legend Insert 	P SN/XST



Special Engraving	Reference
• STOP	F*SG3321
• START	F*SG3322
• CLOSE	F*SG3323
• UP	F*SG3324
• DOWN	F*SG3325
• OFF	F*SG3326
• ON	F*SG3327
• TEST	F*SG3328
• RESET	F*SG3329
• FORWARD	F*SG3330
• REVERSE	F*SG3331
• RAISE	F*SG3332
• LOWER	F*SG3333

For example when ordering non-standard or special engravings, the ordering code would be as follows:

1. 999G SGG784 + F*SG3321
 (Frame Type) (Special Engraving 'STOP')

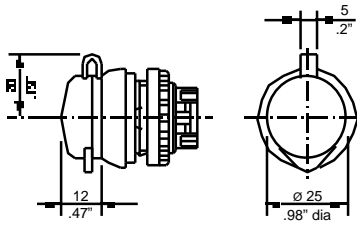


+ STOP

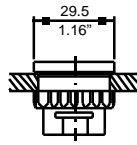
Dimensions

Blanking Plug, Protection Caps, Protective Shroud, Emergency Stop Plates, Cam Switches

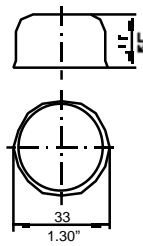
Protection cap
P SN/XWS



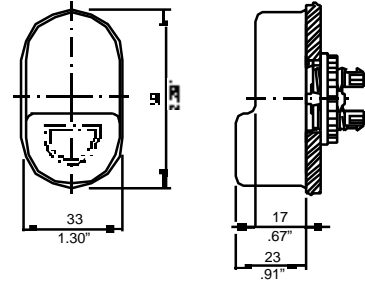
Blanking plug
P SN/B



Protection cap
P SN/T/D

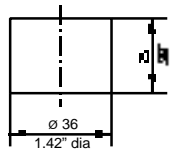


Protection cap
P SN/T/DD

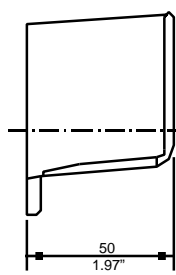
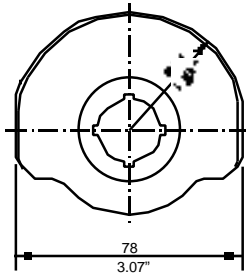


Protective shroud

P SN/XGWK

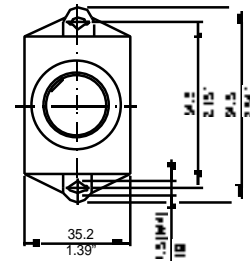
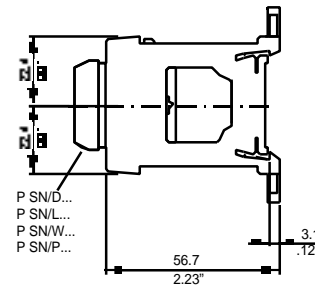


P SN/XGPV



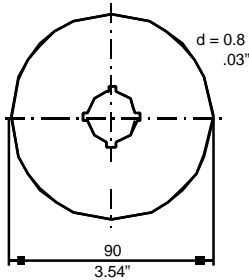
Track adapter

P SN/IVS

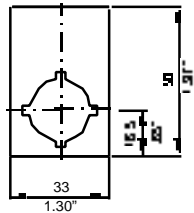


Emergency stop plates

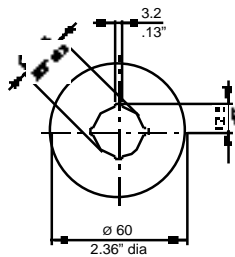
P SN/XAK



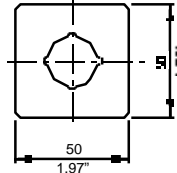
P SN/XZK...



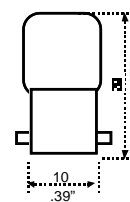
P SN/XBK...



P SN/XYK1

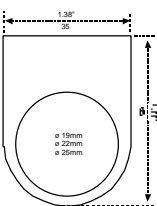


Type BA9S-10x28

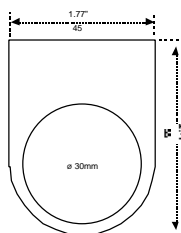


Legend Carrier

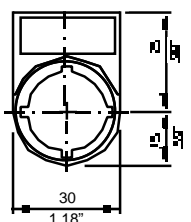
999R SGG729
999R SGG265
999R SGG730



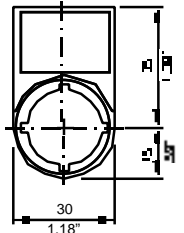
999R SGG731



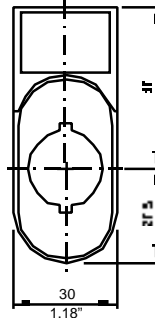
S00 F990/A1B -PRH



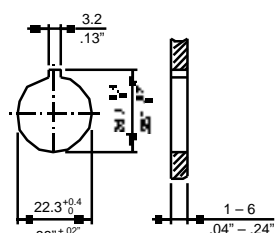
S00 F990/A1B -PRF












P SB/STDD



Mounting drilling with slot



Accessories

Description	Reference	Description	Reference
<p>Bulb Extractor</p> 	P SN/LG	<p>Protective Shroud, IP 66 Protection against accidental operation for push buttons and rotary switches</p> 	P SN/XGWK
<p>Protection Caps, IP 67 Transparent, for aggravating environments and in food areas cannot be combined with legends plates.</p> <ul style="list-style-type: none"> • Push Buttons, Flush • Pilot lights, Flush 	P SN/T/D	<p>Protective Shroud, IP 65 Yellow, for emergency stop buttons</p> 	P SN/XGPV
<p>Double-Push Buttons</p> 	P SN/T/DD	<p>Rod Link For operating the middle contact block of non-illuminated rotary switches with 3 positions</p> 	P SN/XW
<p>Protection Cap Prevents dirt and dust from getting into the keyhole. Rotary Switches, key operated</p> 	P SN/XWS	<p>Coding Pieces For rotary switches to convert the latched function into spring return function (1 kit = 2 pieces)</p> 	P SN/XC/Y
		<p>Blanking Plug, IP 67/IP 69K grey, for surplus control positions</p> 	P SN/B



SINGAPORE (Head Office)
Kraus & Naimer Pte. Ltd.
115A Commonwealth Drive
#03-17/23,
SINGAPORE 149596
Tel : (65) 64738166
Fax : (65) 64738643
e-mail : sgp@krausnaimer.com

COMPANY REG NO: 196600227Z

MIDDLE EAST (Branch Office)
Kraus & Naimer Pte. Ltd.
SalF Zone, P.O. Box: 121607
SHAJAH - UAE
Tel : 971 6 5578886
Fax : 971 6 5578088
e-mail : uae@krausnaimer.com

LICENSE NO: 03-03-07159